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ABSTRACT

This study examines the relationship between the typical activities and social involvement young children experience in Singapore day care centers and the children's language development. Cognitive, physical and domestic activities and social involvement were observed in 16 day care centers and recorded using the Target Child Method of Observation. A comparison of these activities was then made between centers that exhibited "high progress" and "low progress" in language development. The findings showed that children in Singapore child care centers spent a majority of their time in adult-led teaching sessions, and in cognitive and domestic activities. Centers that exhibited high language development had children who were more occupied with cognitive activities and fine and gross motor activities than other activities; these children were also found in small groups. The high-progress centers also exhibited more incidence of verbal interaction with peers and adults. (JPB)

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Typical child behaviours in Singapore day care centres and their relationship with language development

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ABSTRACT

This paper reports on typical activities and social involvement that children experience in Singapore day care centres and how these may be associated with their language development.

Typical cognitive, physical and domestic activities; and social involvement such as in large, small or solitary play, were systematically observed in 16 day care centres. These were recorded by the Target Child Method of Observation (Sylva, Roy & Painter, 1980) and a total of 12,800 thirty-second intervals of observations was coded. A comparison of these activities was then made between centres that made 'high progress' and 'low progress' in language development.

The results showed that children in Singapore day care centres spent a majority of their time in adult-led teaching sessions, cognitive and domestic activities. The findings also indicated that centres that made more progress in language development had children who were more occupied with cognitive activities as well as fine and gross motor activities. They were also found in small groups and there were more incidence of verbal interaction with peers and adults.

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Keywords: child behaviours, adult-child interactions, day care quality

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Introduction

The study of the child in context of the environment has been the focus of research in early childhood education. Bronfenbrenner's (1979) ecology of human development argued that environmental conditions surrounding the child can have profound impact on his/her development. Kessen (1979) maintained that the appropriate approach to child study is not the child alone but the child-in-context. Harms and Clifford (1993) attempted to place this ecological stance of research in the study of day care settings. They identified layers of influence such as state government (exosystem), regulation and family (mesosystem) and educational setting (microsystem) that would have indirect and direct influence on child development. The day-care setting is one of the features contained in the microsystem of the child's overall environment.

The contribution of day care quality to child development has received a large amount of attention. Global indices and also structural variables such as adult-child ratio and group size have represented day care quality indicators. Interactive processes in terms of what goes on in the day-to-day experiences of day care are also very important indicators. These features represent a 'developmental niche' (Super & Harkness, 1986) which provide materials and experiences through which the child develops cognitively, socially and affectively. The idea of a developmental niche is used to attempt to describe the environment "from the point of view of the child in order to understand processes of development and acquisition of culture" (Super & Harkness, 1986: p. 552). Reed (1997) maintains that the developmental niche is a field of promoted action that gives opportunities for experience and social interaction.

It is, therefore, important for researchers to extract and identify specific interactive experiences within the day care setting that can be indicators of day care quality if associated with positive child outcomes. These features can broadly consist of interaction with people and involvement in activities.

The aim of this research was to describe typical activities and social behaviour in 16 day care centres in Singapore. An attempt was also made to investigate if variations in frequencies of these activities and behaviours made a difference to progress in verbal fluency of young children.

Method

Instruments

The Target Child Method (TCM) of observation (Sylva, Roy & Painter, 1980) was used to systematically observe activities and social interaction in the pre-schools. The TCM is well used in many countries like Britain (Jowett & Sylva, 1986), Bahrain (Hadeed, 1994), Portugal (Nabuco & Sylva, 1995) and Italy (Aureli & Prococci, 1992). The system is flexible and adaptable for use in different cultures. This method allowed the researcher to focus on each child's behaviour in relation to the tasks at hand as well as interaction with peers or adults. Observations were narratively recorded within block intervals of thirty-seconds and coded. For this study, observations were coded under two categories[1]:

(i) Task codes that consisted of 24 activity categories.

[1] The Target Child Coding Manual (Sylva, Roy & Painter, 1980) provides a list of codes.

(ii) Social group codes that consisted of four categories out of which verbal interaction was also recorded.

Observer reliability was obtained before and during the main data collection through video training sessions and observations at day care centres. The total number of 30-second intervals observed and coded was 1,334 which made up 10.4% of the total number of intervals for the whole sample (12,800 intervals). The kappa statistical test (Cohen, 1960) was used to calculate inter-observer reliability which corrects for chance agreement. The kappa values obtained ranged from 0.902 - 0.915 for task codes and 0.868 - 0.915 for social codes.

A home background questionnaire was used to obtain information about child characteristics, parents' child rearing values, mother's education, and frequency of doing homework and reading at home.

The verbal fluency task of the British Ability Scales (Elliott, 1984) was administered by two trained researchers at two time points; at the beginning and end of the school year. The verbal fluency task was conducted on a one-to-one basis with the children and each session took no more than five minutes.

Sample

Proportionate random sampling procedure was used to select 16 day care centres from various administrative authorities (e.g. workplace, social service, religious, private, government and organisations). In order to obtain a representative

time sample of typical child behaviour in each centre, ten children (5 boys and 5 girls, age range 49-72 months) from each of the 16 centres were observed for two 20-minute sessions of consecutive 30-second inter als. These 20-minute sessions were observed at random which meant that each child from the ten was selected randomly for observations. A total of 6.67 hours (400 minutes) of observations was conducted at each centre which made up 70% of the day's programme. (An average day at centres for children spanned from 8.30am to 6pm, although officially all day care centres were opened from 7am to 7pm).

Data analysis strategy

For each code, a descriptive analysis was done using frequencies and percentages to give an overall picture of the type of activities and social interaction children were engaged in. This was followed by an exploratory analysis of the differences in type of activities and social interaction between centres that made more progress in verbal fluency and centres that made less progress. Centres were classified as high or low progress according to whether the score for the centre was above or below the median, after adjusting for child characteristics and home background. A comparison of the differences in means was examined.

Results

Table 1

Frequencies and Percentages of Activities Observed

Activities	N	Percent of Total Time
Passive adult led group activities	3503	27.4
Three Rs activities	2340	18.3
Domestic activities	1599	12.5
Waiting	1276	10.0
Purposeful movement	652	5.1
Adult directed art & manipulation	535	4.2
Manipulation	345	2.7
Large muscle movement	342	2.7
Watching	334	2.6
Art	312	2.4
Small scale construction	280	2.2
Pretend	279	2.2
Games with rules	253	2.0
Cruising	173	1.4
Music	126	1.0
Social interaction non-play	109	0.9
Large scale construction	100	0.8
Scale version toys	97	0.8
Discipline	32	0.3
Informal games	24	0.2
Structured materials	23	0.2
Examination	19	0.1
Rough & tumble	15	0.1
Role play	10	0.1
Disturbing behaviour	9	0.1
Decision making	7	0.1
Attention seeking	6	0.0
Total	12800	100

Table 2

Frequencies and Percentages of Groups of Activities Observed

Activities	N (16 centres)	Min	2nd Quartile	3rd Quartile	Max	Percent of Total Time
Whole group	3503	107	147.25	286.75	360	27.37
Cognitive activities	2366	87	108.5	205.5	235	18.48
Daily routine	2251	97	116.25	149.50	214	17.59
Non participation	1789	55	81.25	151.50	185	13.98
Fine & gross	1498	0	42.25	120	246	11.70
Creative activities	1204	0	44.75	107	129	9.41
Social interaction	133	0	1.25	14	28	1.04
Disturbance	56	0	0	2.75	18	0.44
Total	12800					100

Table 3

Frequencies and Percentages of Types of Social Groupings Observed

Social grouping	N	Percent of Total Time
Large group	8765	68.48
Small group	2728	21.31
Pair	749	5.85
Alone	558	4.36
Total	12800	100

Table 4

Frequencies and Proportion of Verbal Interaction within Social Grouping Observed

	Talk		No talk		
Social grouping	N	Percent of Total Time	N	Percent of Total Time	Total N
Large group	3406	38.86%	5359	61.14%	8765
Small group	1308	47.95%	1420	52.05%	2728
Pair	472	63.02%	277	36.98%	749
Alone					
Total	5186	42.36%	7057	57.64%	12242

Table 5

Comparison of Type of Child Activities by Verbal Fluency Progress Groups

	High Progress (N=8)		Low Progress (N=8)		
Child Activities	Mean	S.D.	Mean	S.D.	P
Cognitive activities	154.00	59.39	141.75	46.12	0.65
Fine & Gross	98.38	46.86	88.88	76.94	0.77
Whole group	221.38	57.03	216.50	92.88	0.90
Non-participation	103.25	36.82	120.38	44.78	0.42
Creative activities	78.25	27.91	72.25	45.42	0.76
Disturbance	2.88	6.22	4.13	7.68	0.73
Social	9.38	8.98	7.25	8.76	0.64
Daily routine	132.50	33.87	148.88	28.33	0.31

Note. 800 30-second intervals observed for each progress group.

Table 6

Comparison of Type of Social Grouping by Verbal Fluency Progress Group

	High Progress (N=8)		Low Progress (N=8)		
Social Grouping	Mean	S.D.	Mean	S.D.	P
Alone	39.00	14.77	30.75	16.58	0.31
Pair	32.13	19.07	61.50	41.56	0.17
Small group	192.13	78.43	148.88	68.05	0.26
Large group	536.75	93.58	558.88	115.84	0.68

Note. 800 30-second intervals observed for each progress group

Table 7

Comparison of the Proportion of Talk within Social Grouping by Verbal Fluency Progress Groups

	High Progress (N=8)		Low Progress (N=8)		
Social Grouping	Mean	S.D.	Mean	S.D.	P
Pair	0.66	0.24	0.63	0.13	0.75
Small group	0.49	0.09	0.49	0.16	0.97
Large group	0.41	0.06	0.37	0.09	0.34
Total	0.44	0.05	0.41	0.10	0.51

Note. 800 30-second intervals observed for each progress group

Discussion

An attempt was made in this study to create a profile of typical child behaviours and social involvement in Singapore day care centres. It appeared that the centres are typified by adult-led passive, cognitive and daily routine activities (refer to tables 1 & 2). In comparison with other countries, a greater spread of activities were found in their daily programme. For example, Karrby (1991) found that pretend play, social interaction, group activities, art, domestic activity and watching occupied half of the day-to-day experiences in Swedish full-day pre-schools. In Britain, children were engaged in manipulation, pretend play, watching, large muscle movement, art and music more in pre-schools. Also, in Bahrain, Hadeed (1994) reported that children were typically engaged in watching, domestic, academic and gross motor activities.

In Singapore day care centres, children spent vast amounts of time in group activities which were basically adult-led teaching sessions. These activities focused on the teaching of basic literacy and numeracy skills through individual paper and pencil work and are valued by parents and staff. This is a contrast to western countries such as Sweden and Britain in which creative and play activities were more prevalent, presumably more valued by parents and staff. Also, the findings of this study indicated that children spent more time in large groups where there was less occurrence of verbal interaction (refer to tables 3 & 4).

This study also found that centres that did better in verbal fluency had children who were engaged more in cognitive, fine/gross motor, whole group and creative

activities (refer to table 5). This supported the findings of Nabuco (1997) and Hadeed (1994), where language outcomes were positively associated with activities such as problem solving and literacy activities. It could be speculated that pre-school tasks that were cognitively challenging could enhance language development.

With regards to social interaction, this study suggested that verbal exchange and stimulation in smaller groups could promote verbal skills (refer to tables 6 & 7). This supported the finding by Sylva, Roy and Painter (1980) that children playing in pairs tended to make more progress than those playing in large groups or alone. The findings were also consistent with studies like Rubenstein and Howes (1983), Melhuish, Mooney, Martin and Lloyd (1990) and Hadeed (1994) which suggested that children who performed better on language tasks were more immersed in adult verbal stimulation and dialogue.

However, the constraint of the small sample size of 16 centres in this study restricted firm conclusions. Therefore caution is required in inferring causes of progress as categories of behaviours were also found to be dependent. This meant that a low occurrence of a task activity might not necessarily have caused lower or higher progress as it may be limited by another task activity. The TCM was also not able to discriminate subtle differences in the processes that went on during the dominant tasks such as whole group activities. This occupied a large proportion of the total time observed.

Conclusion

In sum, this study supports a consistent trend across countries in identifying interactive features associated with positive child development (in this case, verbal fluency). The trend is that cognitively challenging activities such as literacy activities, academic and problem solving tasks, co-operative dialogue in small groups appeared to be beneficial to children. In day care research, a possible way of identifying indicators of quality is to use the 'bottom-up' perspective (Katz, 1993) in which the child's point of view is considered. Extracting day-to-day experiences and behaviours in their developmental niche provides a richer understanding of the child-in-context.

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